1153.

SUPREME COURT OF THE UNITED STATES.

No. 130.

JAMES G. WILSON, PLAINTIFF,

vs.

LEWIS ROUSSEAU AND CHARLES EASTON.

ON A CERTIFICATE OF DIVISION IN OPINION FROM THE CIRCUIT COURT U. S. FOR THE NORTHERN DISTRICT OF NEW YORK.

INDEX.

	Original.	Print.
Questions on which the judges were opposed - - -	1	2
Statement of facts - - - - - - - -	5	4
Original patent, specifications, drawing - - - -	9	6
Disclaimer - - - - - - - - -	22	11
New patent and drawings - - - - - - -	25	12

J. & G. S. Gideon, Printers.

United States of America,
Northern District of New York:

At a circuit court of the United States, begun and held at Albany, for the northern district of New York, on Tuesday, the twenty-first day of October, in the year of our Lord one thousand eight hundred and forty-five, and in the seventieth year of American independence—

Present, the honorable Samuel Nelson and Alfred Conkling, esquires.

JAMES G. WILSON
vs.
LEWIS ROUSSEAU AND CHARLES EASTON.

State of the pleadings.

This is an action on the case to recover damages for the alleged infringement of letters patent issued to William Woodworth on the 27th day of December, 1828, for the term of 14 years, for an improvement in machinery for planing, tongueing, and grooving boards and plank at one operation; which letters patent were, on the 16th day of November, 1842, extended for 7 years more, such extension being granted to William W. Woodworth, as administrator of said William Woodworth.

To the first count of the plaintiff's declaration, the defendants interposed three several special pleas in bar, to each of which pleas the plaintiff demurred, and the defendants joined in demurrer. To the second count of the plaintiff's declaration, the defendants demurred, and the plaintiff joined in demurrer.

The case coming on to be argued at this term, the following questions occurred for decision, to wit:

First. Whether the 18th section of the patent act of 1836 authorized the extension of a patent on the application of the executor or administrator of a deceased patentee?

Second. Whether, by force and operation of the 18th section of the act of July 4th, 1836, entitled "An act to promote the progress of the useful arts," &c., the extension granted to William W. Woodworth, as administrator, on the 16th day of November, 1842, enured to the benefit of assignees, under the original patent granted to William Woodworth on the 27th day of December, 1828, or whether said extension enured to the benefit of the administrator only, in his said capacity?

Third. Whether the extension specified in the foregoing second point enured to the benefit of the administrator to whom the same was granted, and to him in that capacity exclusively; or whether as to the territory specified in the contract of assignment made by William Woodworth and James Strong to Twogood, Halstead, & Tyach, on the 28th day of November, 1829, (and set forth in the second plea of the defendants to the first count of the declaration,) and by legal operation of the covenants contained in said contract, the said extension enured to the benefit of the said Twogood, Halstead, & Tyach, or their assigns?

Fourth. Whether the plaintiff, claiming title under the extension from the administrator, can maintain an action for an infringement of the patent right within the territory specified in the contract of assignment to Twogood, Halstead, & Tyach, against any person not claiming under said assignment; or whether the said assignment be of itself a perfect bar to the plaintiff's suit?

Fifth. Whether the extension specified in the second point could be applied for and obtained by William W. Woodworth, as administrator of William Woodworth, deceased, if the said William Woodworth, the original patentee, had in his lifetime disposed of all his interest in the then existing patent, having, at the time of his death, no right or title to, or interest in, the said original patent; or whether such sale carried with it nothing beyond the term of said original patent; and, if it did not, whether any contingent rights remained in the patentee or his representatives?

Sixth. Whether the plaintiff, if he be an assignee of an exclusive right to use two of the patented machines within the town of Watervliet, has such an exclusive right as will enable him to maintain an action for an infringement of the patent within said town; or whether to maintain such action, the plaintiff must be possessed, as to that territory, of all the rights of the original patentee?

Seventh. Whether the letters patent of renewal issued to William W. Woodworth as administrator aforesaid, on the 8th day of July, 1845, upon the amended specification and explanatory drawings then filed, be good and valid in law; or whether the same be void, for uncertainty, ambiguity, or multiplicity of claim, or any other cause?

Eighth. Whether the court can determine, as matter of law, upon an inspection of the said two patents and their respective specifications, that the said new patent of the 8th of July, 1845, is not for the same invention for which the said patent of 1828 was granted?

Ninth. Whether the decision of the board of commissioners, who are to determine upon the application for the extension of a patent under the 18th section of the act of 1836, is conclusive upon the question of their jurisdiction to act in the given case?

Tenth. Whether the Commissioner of Patents can lawfully receive a surrender of letters patent for a defective specification, and issue new letters patent upon an amended specification, after the expiration of the term for which the original patent was granted, and pending the existence of an extended term of seven years; or whether such surrender and renewal may be made at any time during such extended term?

On which questions, the opinions of the judges were opposed.

Whereupon, on a motion of the plaintiff, by William H. Seward, his counsel, that the points on which the disagreement hath happened may during the term be stated under the direction of the judges, and certified under the seal of the court to the Supreme Court, to be finally decided.

It is ordered that the foregoing state of the pleadings, and the following statement of facts, which is made under the direction of the judges,

be certified according to the request of the plaintiff by his counsel, and the law in that case made and provided, to wit:

First. That William Woodworth, as the inventor of a machine, or improvement in machinery, for planing, tongueing, and grooving boards and plank at one operation, on the 27th day of December, in the year 1828, applied to the proper department of the Government for a patent for said invention, and upon the same day, on filing his specification and explanatory drawings, and complying with the other legal prerequisites, letters patent, signed by the President, and under the seal of the United States, were duly issued to the said William Woodworth, granting to him the exclusive right, throughout the United States, to construct and use, and vend to others to be used, the machine or improvement patented for and during the term of fourteen years from the said 27th day of December, 1828.

Second. That subsequently, to wit, on the 28th day of November, 1829, the said William Woodworth and James Strong, who had become jointly interested with said Woodworth in the rights secured by the said letters patent by contract of assignment of that date, transferred to Daniel H. Twogood, Daniel Halstead, and William Tyach, all their right and interest in and to the said patent for certain parts and portions of the United States in said contract specifically set forth, including the city and county of Albany, in the State of New York, which is the domicil of the defendants.

Third. That the *habendum* in said contract of assignment is in the words following, to wit:

"To have and to hold the rights and privileges hereby granted for "and during the term of fourteen years from the date of the patent."

And that the third clause in said contract of assignment is in the following words, to wit:

"And the two parties further agree that any improvement in the ma-"chinery, or alteration or renewal of either patent, such improvement, "alteration, or renewal, shall enure to the benefit of the respective par-"ties interested, and may be applied and used within their respective "districts, as hereinbefore designated."

Fourth. That previous to the expiration of the fourteen years' limitation of said patent, William Woodworth, the patentee, died, to wit, on the 9th of February, 1839; that William W. Woodworth was thereupon duly appointed, and now is, administrator of the estate of the said William Woodworth, and that said Woodworth, in his lifetime, had sold all his interest in the said original patent.

Fifth. That William W. Woodworth, as administrator aforesaid, on the 16th day of November, 1842, under the 18th section of the act of Congress of July 4th, 1836, applied to the board of commissioners created by the said section, for an extension of said patent; and that, upon complying with the requisites in said section prescribed, an extension of said patent was granted by said board to William W. Woodworth, as administrator of the estate of William Woodworth, on said 16th day of November, 1842, and letters patent of extension were on said day duly

issued to him, granting to him, in his aforesaid capacity, the exclusive right to make and use, and vend to others to be used, the said invention or improvement, for the term of seven years from and after the term of limitation of said original patent.

Sixth. That on the 8th day of July, 1845, the said William W. Woodworth, in his capacity as administrator aforesaid, and in accordance with the provisions of the 13th section of the said act of July 4th, 1836, made a surrender to the Commissioner of Patents of the letters patent to him granted on the 16th day of November, 1842, for an insufficiency of the specification upon which said original patent was issued, and upon filing a corrected and amended specification, with explanatory drawings, a copy of which is annexed hereto, and made a part of this statement, the said Commissioner, on said 8th day of July, 1845, issued to the said William W. Woodworth new letters patent of said invention for the unexpired term of the first extension thereof, and of the extension granted by special act of Congress, on the 26th day of February, 1845.

Seventh. That the defendants in this action have erected and put in operation, in the town of Watervliet, which is within the county of Albany, and State of New York, one or more machines for planing, tongueing, and grooving boards and plank, substantially the same in principle and mode of operation as that the subject of the patent granted to William Woodworth.

Eighth. That the defendants trace no title to themselves to a right to use said machines from the assignment made by William Woodworth and James Strong to Halstead, Twogood & Tyach.

Ninth. That the plaintiff in this action is the grantee of William W. Woodworth, as administrator of the exclusive right to construct and use, and vend to others to be used, two of said patented machines within said town of Watervliet, in said county of Albany, and State of New York.

(Here follows a copy of the original patent, specifications, drawings, disclaim, new patent, and amended specification in the explanatory drawings filed in the Patent Office, July 8, 1845, being the same referred to in the foregoing sixth statement.)

United States of America,

Northern District of New York:

I, Anson Little, clerk of the circuit court of the United States for the northern district of New York, do hereby certify the foregoing to be a copy from the minutes. Given under [SEAL.] my hand, and seal of office, at Albany, on the seventh day of November, in the year of our Lord one thousand eight hundred and forty-five.

ANSON LITTLE, *Clerk.*

To all to whom these presents shall come, greeting:

I certify, that the annexed is a true copy of the petition, oath, assignment of half the patent right granted to William Woodworth, on the 27th December, 1828, for his improvement in the method of planing, grooving, and cutting into mouldings, or either, plank, boards, or any other material; and for reducing the same to an equal width and thickness; and also for facing and dressing brick and cutting mouldings on, or facing metallic, mineral, or other substances; also a true copy of said patent.

In testimony whereof, I, Henry Clay, Secretary of State of the United States, have hereunto subscribed my name, and caused the seal of the Department of State to be affixed.

[SEAL.] Done at the city of Washington, this twenty-ninth day of December, A. D. 1828, and of the independence of the United States of America the fifty-third.

H. CLAY.

To the Hon. Henry Clay, Secretary of State of the United States:

The petition of William Woodworth, of the city of Hudson, in the county of Columbia, and State of New York, respectfully represents:

That your petitioner has invented a new and improved method for planing, tonguing, grooving, and cutting into mouldings, or either, plank, boards, or any other material, and for reducing the same to an equal width and thickness; and also for facing and dressing brick, and cutting mouldings on, or facing, metallic, mineral, or other substances, not known or used before the application by him, the advantages of which he is desirous of securing to himself and his legal representatives. He therefore prays that letters patent of the United States may be issued, granting unto your petitioner, his heirs, administrators, or assigns, the full and exclusive right of making, constructing, using, and vending to others to be used, his aforesaid new and improved method, agreeably to the acts of Congress in such case made and provided; your petitioner having paid thirty dollars into the Treasury of the United States, and complied with the other provisions of the said acts.

WILLIAM WOODWORTH.

November 26th, 1828.

State of New York, Rensselaer county, ss:

On this sixth day of December, A. D. 1828, before the subscriber, a justice of the peace in and for the county of Rensselaer aforesaid, personally appeared the aforesaid William Woodworth, and made solemn oath, according to law, that he verily believes himself to be the true and original inventor of the new and improved method, above described and specified, for planing, tonguing, grooving, and cutting into mouldings, or either, plank, boards, or any other material, and for reducing the same to an equal width and thickness; and also for facing

and dressing brick, and cutting mouldings on, or facing metallic, mineral, or other substances; and that he is a citizen of the United States.

JOHN THOMAS, *Justice of the Peace.*

Whereas, I, William Woodworth, of the city of Hudson, in the State of New York, have heretofore, to wit, on the 13th day of September, 1828, assigned and transferred, for a legal and valuable consideration, the one equal half of all my right, title, claim, and interest, in and to the invention or improvement mentioned and intended in the foregoing petition, oath, and specifications, to James Strong, of the city of Hudson.

And whereas, also, the subjoined assignment is intended only to convey and assign the same interest, transferred and assigned in the assignment of the 13th of September above mentioned, without any prejudice to my one equal half of the said invention or improvement, which is expressly reserved to myself and my legal representatives.

Now know all men that I, the said William Woodworth, for and in consideration of the sum of ten dollars, and other valuable considerations me moving, have, and do hereby, for myself and my legal representatives, give, assign, transfer, and assure to the said James Strong, and his legal representatives, the one full and equal half of all my right, title, interest, and claim, in and to my new and improved method for planing, tongueing, grooving, and cutting into mouldings, either plank, boards, or any other material, and for reducing the same to an equal width and thickness; and also for facing and dressing brick, and cutting mouldings on, or facing, metallic, mineral, or other substances, mentioned and intended to be secured by the foregoing petition, oath, and specification; together with all the privileges and immunities, as fully and absolutely as I do or shall enjoy or possess the same; to have and to hold and enjoy the same to the said James Strong and his legal representatives, as fully as I or my legal representatives do or may.

In witness whereof, I have hereunto set my hand and seal the 4th day of December, 1828.

WILLIAM WOODWORTH.

In presence of—
HENRY EVERTS,
DAVID GLEASON.

Duly entered on record, in the third volume of Transfers of Patent Rights, pages 155, 156, in the Patent Office of the United States, this twenty-seventh day of December, A. D. 1828, and in the fifty-third year of American independence.

WILLIAM ELLIOT, *Clerk.*

The United States of America, to all to whom these letters patent shall come:

Whereas, William Woodworth, a citizen of the United States, hath alleged that he has invented a new and useful improvement in the method of planing, tongueing, grooving, and cutting into mouldings, or either, plank, boards, or any other materials, and for reducing the

same to an equal width and thickness ; and also for facing and dressing brick, and cutting mouldings on, or facing, metallic, mineral, or other substances ; which improvement, he states, has not been known or used before his application ; hath made oath that he does verily believe that he is the true inventor or discoverer of the said improvement ; hath paid into the treasury of the United States the sum of thirty dollars, delivered a receipt for the same, and presented a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose.

These are, therefore, to grant, according to law, to the said William Woodworth, his heirs, administrators, or assigns, for the term of fourteen years, from the twenty-seventh day of December, one thousand eight hundred and twenty-eight, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement; a description whereof is given in the words of the said William Woodworth himself, in the schedule hereto annexed, and is made a part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the United States to be hereunto affixed. Given under my hand, at the city of Washington, [SEAL.] this twenty-seventh day of December, in the year of our Lord one thousand eight hundred and twenty-eight, and of the independence of the United States of America the fifty-third.

J. Q. ADAMS.

By the President:

H. CLAY, *Secretary of State.*

City of Washington, to wit:

I do hereby certify, that the foregoing letters patent were delivered to me on the twenty-seventh day of December, in the year of our Lord one thousand eight hundred and twenty-eight, to be examined; that I have examined the same, and find them conformable to law; and I do hereby return the same to the *Secretary* of *State*, within fifteen days from the date aforesaid, *to wit*, on this twenty-seventh day of December, in the year aforesaid.

WM. WIRT,

Attorney General of the United States.

The schedule referred to in these letters patent, and making part of the same, containing a description in the words of the said William Woodworth himself, of his improvement in the method of planing, tongueing, grooving, and cutting into mouldings, or either, plank, boards, or any other material, and for reducing the same to an equal width and thickness; and also for facing and dressing brick, and cutting mouldings on, or facing, metallic, mineral, or other substances.

The plank, boards, or other material, being reduced to a width by circular saws, or friction wheels, as the case may be, is then placed on a carriage, resting on a platform, with a rotary cutting wheel in the centre, either horizontal or vertical. The heads or circular plates fixed

to an axis, may have one of the heads moveable, to accommodate any length of knife required. The knives fitted to the heads, with screws or bolts, or the knives or cutters for moulding, fitted by screws or bolts to logs, connecting the heads of the cylinder, and forming, with the edges of the knives or cutters, a cylinder. The knives may be placed in a line with the axis of the cylinder, or diagonally. The plank or other material resting on the carriage may be set so as to reduce it to any thickness required; and the carriage, moving by rack and pinion, or rollers, or any lateral motion to the edge of the knives or cutters, on the periphery of the cylinder or wheel, reduces it to any given thickness. After passing the planing and reducing wheel it then approaches, if required, two revolving cutter wheels, one for cutting the groove and the other for cutting the rabbits that form the tongue; one wheel is placed directly over the other, and the lateral motion moving the plank or other material between the grooving and rabbiting wheels, so that one edge has a groove cut the whole length of, and the other edge a rabbit, cut on each side, leaving a tongue to match the groove. The grooving wheel is a circular plate, fixed on an axis, with a number of cutters attached to it, to project beyond the periphery of the plate, so that when put in motion, will perform a deep cut or groove parallel with the face of the plank or other material. The rabbiting wheel, also of similar form, leaving a number of cutters on each side of the plate, projecting like those on the grooving wheel, cuts the rabbit on each side of the edge of the plank, and leaves the tongue or match for the groove. By placing the planing wheel axis and cutter knives vertical, the same wheel will plane two planks or other material in the same time of one, by moving the plank or other material opposite ways, and parallel with each other, against the periphery of the planing or moulding wheel. The groove and tongue may be cut in the plank or other material at the same time, by adding a grooving and rabbiting wheel.

Said William Woodworth does not claim the invention of circular saws or cutter wheels, knowing they have long been in use. But he claims as his invention the improvement and application of cutter or planing wheels to planingboards, plank, timber, or other material; also his improved method of cutters for grooving and tongueing, and cutting mouldings on wood, stone, iron, metal, or other material, and also for facing and dressing bricks, as all the wheels may be used single and separately for moulding or any other purpose before indicated. He also claims as his improved method the application of circular saws for reducing floor plank and other materials to a width.

WILLIAM WOODWORTH.

Dated Troy, December 4, 1828.

Witnesses—

HENRY EVERTS,

D. S. GLEASON.

The United States Patent Office:

To all persons to whom these presents shall come, greeting:

This is to certify that the annexed is a true copy upon the records in this office.

In testimony whereof, I, H. L. Ellsworth, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed this tenth day of March, in the year of our Lord, [Seal of the Patent Office.] one thousand eight hundred and forty-five, and of the independence of the United States the sixty-ninth.

H. L. ELLSWORTH.

PATENT OFFICE, *March 3d*, 1845.

Whereas the Congress of the United States have passed an act, of which the following is a true copy, viz:

An act to extend a patent heretofore granted to William Woodworth.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the patent granted to William Woodworth, on the twenty-seventh day of December, in the year one thousand eight hundred and twenty-eight, for his improvement on the method of planing, tongueing, grooving, and cutting into mouldings, or either, plank, boards, or any other material, and for reducing the same to an equal width and thickness; and also for facing and dressing brick, and cutting mouldings on, and facing, several other substances, a description of which is given in a schedule annexed to the letters patent granted as aforesaid, be, and the same is hereby, extended for the term of seven years, from and after the twenty-seventh day of December, in the year one thousand eight hundred and forty-nine; and the commissioner of patents is hereby directed to make a certificate of such extension in the name of the administrator of the said William Woodworth, and to append an authenticated copy thereof to the original letters patent, whenever the same shall be requested by the said administrator or his assigns.

Approved February 26, 1845.

A true copy from the roll of this office.

R. K. CRALLE, *Chief Clerk.*

Department of State, March 3, 1845.

In conformity, therefore, with the directions in the said act contained, I, Henry L. Ellsworth, Commissioner of Patents, do hereby certify, that the patent therein described is, by the said act, extended to William W. Woodworth, administrator of said William Woodworth, for the term of seven years, from and after the twenty-seventh day of December, in the year one thousand eight hundred and forty-nine; and this certificate of such extension is made on the original letters patent, on the application of William W. Woodworth, the administrator of the said William Woodworth.

In testimony whereof I have caused the seal of the patent office to be [L. S.] hereunto affixed, this 3d day of March, 1845.

HENRY L. ELLSWORTH,
Commissioner of Patents.

Whereas, upon the petition of William W. Woodworth, administrator of the estate of William Woodworth, deceased, for an extension of the within patent granted to William Woodworth, deceased, on the 27th day of December, 1828, the board of commissioners, under the 18th section of the act of Congress, approved the 4th day of July, 1836, entitled an act to promote the progress of the useful arts, to repeal all acts and parts of acts heretofore made for that purpose, did, on the 16th day of November, 1842, certify that the said patent ought to be extended.

Now, therefore, I, Henry L. Ellsworth, Commissioner of Patents, by virtue of the power vested in me by said 18th section, do renew and extend said patent, and certify that the same is hereby extended for the term of seven years, from and after the expiration of the first term, viz, the 27th day of December, 1842, which certificate of said board of commissioners, together with this certificate of the commissioner of patents, having been duly entered of record in the patent office, the said patent now has the same effect in law as though the time had been originally granted for the term of twenty-one years.

In testimony whereof I have caused the seal of the patent office to be hereunto affixed, this 16th day of November, 1842.

[Seal of the Patent Office.]

H. L. ELLSWORTH,
Commissioner of Patents.

The United States Patent Office, to all persons to whom these presents shall come, greeting:

This is to certify, that the annexed is a true copy of the records in this office.

In testimony whereof, I, Henry L. Ellsworth, commissioner of patents, have caused the seal of the patent office to be hereunto affixed, this third day of April, in the year of our Lord one thousand eight hundred and forty-three, and of the independence of the United States the sixty-seventh.

[Seal of the Patent Office.]

H. L. ELLSWORTH.

To all men to whom these presents shall come: I, William W. Woodworth, of Hyde Park, in the county of Dutchess, and State of New York, esquire, as I am administrator of the goods and estate which were of William Woodworth, deceased, hereinafter named, send greeting:

Whereas letters patent, bearing date on the twenty-seventh day of December, in the year of our Lord eighteen hundred and twenty-eight, were granted by the United States to William Woodworth, now deceased, for an improvement in the method of planing, tongueing, grooving and cutting into mouldings, or either, boards, plank, or any other material, and for reducing the same to an equal width and thickness; and also for facing and dressing brick, and cutting mouldings, or

facing metallic, mineral, or other substances. And whereas, before the term of fourteen years, for which the said letters patent were granted, had fully expired, such proceedings were had that, pursuant to the act of Congress in such case made and provided, the said letters patent were renewed or extended for the term of seven years, from and after the expiration of the said term of fourteen years, and to the certificate granting the said extension and renewal unto me in my said capacity, bearing date on the sixteenth day of November now last past, and which is duly recorded according to act of Congress in that behalf, reference is hereby made, as showing my title and interest in and to the said letters patent.

And whereas, the said William Woodworth, through inadvertence, accident, or mistake in his application for letters patent, made his specification of claim too broad, in this, viz, that he, the said William Woodworth, claimed as his improved method the application of circular saws for reducing floor plank and other material to width, of which he was not the original and first inventor. And whereas, some material and substantial part of the said patented thing was justly and truly the invention and improvement of the said William Woodworth.

Now therefore, know ye, that I, the said William Woodworth, in my capacity aforesaid, and as the person to whom the said certificate was granted as aforesaid, have *disclaimed*, and do by these presents, for myself and for all claiming under me, disclaim, all and any exclusive right, title, property, or interest of, in, or to the application of circular saws for reducing floor plank or other materials to a width, by reason of the aforesaid letters patent, and the aforesaid renewal or extension thereof.

In testimony whereof, I have hereto, in my capacity aforesaid, set my hand and seal, on this second day of January, in the year eighteen hundred and forty-three.

WILLIAM W. WOODWORTH,
Administrator of W. Woodworth, deceased. [SEAL.]

Executed in presence of—
CHAS. W. EMESN,
B. R. CURTIS.

The United States of America, to all to whom these letters patent shall come:

Whereas, William W. Woodworth, administrator of William Woodworth, deceased, of Hyde Park, N. Y., has alleged that said William Woodworth invented a new and useful improvement in machines for planing, tongueing, and grooving, and dressing boards, &c., for which letters patent were granted, dated the 27th day of December, 1828, which letters patent have been extended (as will appear by the certificates appended thereto, copies of which are hereunto attached) for fourteen years from the expiration of said letters patent; and which letters patent are hereby cancelled on account of a defective specification, which he states has not been known or used before said William Woodworth's application; has made oath that he is, and that said William Woodworth was, a citizen of the United States; that he does verily be-

lieve that said William Woodworth was the original and first inventor or discoverer of the said improvement, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of fifteen dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose:

These are therefore to grant, according to law, to the said William W. Woodworth, in trust for the heirs at law of said W. Woodworth, their heirs, administrators, or assigns, for the term of twenty-eight years from the twenty-seventh day of December, one thousand eight hundred and twenty-eight, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said William W. Woodworth, in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these letters to be made pa-
[L. S.] tent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the city of Washington, this eighth day of July, in the year of our Lord one thousand eight hundred and forty-five, and of the independence of the United States of America the seventieth.

JAMES BUCHANAN,
Secretary of State.

Countersigned, and sealed with the seal of the Patent Office.

HENRY H. SYLVESTER,
Acting Com'r of Patents.

The schedule referred to in these letters patent, and making part of the same:

To all whom it may concern: Be it known, that the following is a full, clear, and exact description of the method of planing, tongueing, and grooving plank or boards, invented by William Woodworth, deceased, and for which letters patent of the United States were granted to him on the 27th day of December, in the year one thousand eight hundred and twenty-eight; the said letters patent having been surrendered for the purpose of describing the same invention, and pointing out in what it consists, in more clear, full, and exact terms, than was done in the original specification.

Amended specification.

The plank or boards, which are to be planed, tongued, or grooved, are first to be reduced to a width by means of circular saws, by reducing wheels, or by any other means. When circular saws are used for this purpose, two such saws should be placed upon the same shaft, on which they are to be capable of adjustment, so that they may be made to stand at any required distance apart; under these the board or plank is to be

forced forward, and brought to the width required; this apparatus and process do not require to be further explained, they being well understood by mechanicians.

When what has been above denominated reducing wheels are used, these are to consist of revolving cutter wheels, which resemble, in their construction and action, the planing and reducing wheel to be presently described; these are to be made adjustable like the circular saws, but the latter are preferred for this purpose. The plank may be reduced to a width on a separate machine.

When the plank or boards have been thus prepared, (on a separate machine,) they may be placed on or against a suitable carriage resting on a frame or platform, so as to be acted upon by a rotary cutting, or planing and reducing wheel; which wheel may be made to revolve either horizontally or vertically, as may be preferred. The carriage which sustains the plank or board to be operated upon, may be moved forwards by means of a rack and pinion, by an endless chain or band, by geared friction rollers, or by any of the devices well known to machinists for advancing a carriage or materials to be acted upon in machines for various purposes. The plank or board is to be moved on towards the cutting edges of the cutters or knives, on the planing cylinder, so that its knives or cutters, as they revolve, may meet and cut the plank or board in a direction contrary to that in which it is made to advance; the edges of the cutters are, in this method, prevented from coming first into contact with its surface, and are made to cut upwards, from the reduced part of the plank towards said surface; by which means their edges are protected from injury by gritty matter, and the board or plank is more evenly and better planed than when moved in the reverse direction.

After the board or plank passes the planing cylinder, and as soon, or fast, as the planing cylinder has done its work on any part of the board or plank, the edges are brought into contact with two revolving cutter wheels, one of which wheels is adapted to the cutting of the groove, and the other to the cutting of the two rebates that form the tongue. When the axis of the planing and reducing wheel stands vertically, the grooving and tongueing wheels are placed one above the other, with the plank edgewise between them; when the axis of the planing wheel stands horizontally, these wheels are on the same horizontal plane with each other standing on perpendicular spindles.

The grooving wheel consists of a circular plate fixed on an axis, and having one, two, three, four, or more cutters, which are to be screwed, bolted, or otherwise attached to it; the edges of which cutters project beyond the periphery of the plate, to such distance as is required for the depth of the groove, their thickness may be such as is necessary for its width; they are, of course, so situated as to cut the groove in the middle of the edge of the board, or as nearly so as may be required. The tongueing wheel is similar in form to the grooving wheel, but it has cutters on each of its sides, or otherwise, so formed and arranged as to cut the two rebates which are necessary to the formation of the tongue.

Amended specification.

The grooving and tongueing cutters, at the same time, and by the same operation, reduce the board or plank to an exact width throughout. When the axis of the planing wheel is placed vertically, the knives or cutters may be made to plane two planks at the same time; the planks being, in this case, moved in contrary directions, and so as to meet the edges of the revolving knives or cutters. When the machine is thus constructed, a second pair of grooving and tongueing wheels may be made to operate in the same way with those above described. A machine to operate upon a single plank or board, and having the axis of the planing wheel placed horizontally, will, however, be more simple and less expensive than that intended to operate on two planks simultaneously.

In the accompanying drawing, fig. 1, is a perspective representation of the principal operating parts of the machine when arranged and combined for planing, tongueing, and grooving; and when so arranged as to be capable of planing two planks at the same time, the axis of the planing wheel being placed vertically, A. A. is a stout substantial frame of the machine, which may be of wood, or of iron, and may be varied in length, size, and strength, according to the work to be done. B. B. are the heads of the planing cylinder, and C. C. the knives or cutters, which extend from one to the other of said heads; to the peripheries of which they may be attached by means of screws. The knives, C. C., with the faces forming a planing angle, may be placed in a line with the axis J. of the cylinder, or they may stand obliquely thereto, as may be preferred; but in the latter case the edge should form the segment or portion of a helix; *b.* represents a pulley near to the upper end of the axis J.; and I., a pulley or drum, which may be made to revolve by horse, steam, or other motive power, and from which a belt may extend around the pulley *b.*, to drive the planing cylinder and other parts of the machinery; G. is the carriage which is represented as being driven forward by means of a rack and pinion H.; against this carriage the plank K., which is to be planed, tongued, and grooved, is placed, and is made to advance with it. It will be manifest, however, that the plank may be moved forward by other means; as, for example, by an endless chain or band, passing around drums or chain wheels, or by means of geared friction wheels borne up against it. To cause the carriage and plank to move forward readily, there may be friction rollers, *f. f. f.*, placed horizontally, and extending under them; the rollers, *f. f. f.*, which stand vertically, are to be made to press against the plank and keep it close to the carriage, aud thus prevent the action of the cutters from drawing the plank up from its bed in cutting from the planed surface upwards; they may be borne against it by means of weights or springs, in a manner well known to machinists. In a single horizontal machine, the horizontal friction rollers may be geared, and the pressure rollers placed above them to feed the board with or without the carriages, a bed plate being used directly under the planing cylinder.

Fig. 2 is a separate view of the planing cylinder, with its knives or cutters; and fig. 3 an end view of one of the heads. E. E. are the revolving cutters, or tongueing and grooving wheels, and D. D. whirls upon their shafts, which may be driven by bands, or otherwise, so as to cause said wheels to revolve in the proper direction.

Fig. 4 is a side view of one of these wheels; Fig. 5 is an edge view of the tongueing wheel; and Fig. 6 an edge view of the grooving wheel —the latter being each shown with two cutters in place. The number of cutters on these wheels may be varied, but they are represented as furnished with four. The cutters may be fixed on the sides of circular plates, with their edges projecting beyond the periphery of said plate.

The edges of the plank, as its planed part passes the planing cylinder, are brought in contact with the above described tongueing and grooving wheels, which are so placed upon their shafts as that the tongue and groove shall be left at the proper distance from the face of the plank, the latter being sustained against the planing cylinder by means of the carriage or bed plate, or otherwise, so that it cannot deviate, but must be reduced to a proper thickness, and correctly tongued and grooved.

In Fig. 1 above referred to, only one carriage and one pair of cutter wheels are shown, it not being deemed necessary to represent those on the opposite side, they being similar in all respects.

Fig. 7 represents the same machine, with the axis of the planing cylinder placed horizontally, and intended to operate on one plank only at the same time. A. A. is the frame; B. B. the heads of the planing cylinder; C. C. the knives or cutters attached to said heads. To meet the different thicknesses of the planks or boards, the bearings of the shaft or cylinder may be made moveable by screws or other means, to adjust it to the work; or the carriage or bed plate may be made so as to raise the board or plank up to the planing cylinder. E. and E′. are the revolving cutters, or tongueing and grooving wheels, which are placed upon vertical shafts, having upon them pulleys D. D., around which pass belts or bands, from the main drum I., to which a revolving motion may be given by any adequate motive power.

From the drum, I., a belt, L., passes also around the pulley, *b*., on the shaft of the planing cylinder, and gives to it the requisite motion. There may in this machine be a horizontal carriage moved forward by a rack and pinion, in a manner analogous to that represented in Fig. 1; but in the present instance the plank is supposed to be advanced by means of one or two pairs of friction or feed rollers, shown at f. f′.; the uppermost f′. f′. of the pairs of rollers may be held down by springs, or weighted levers, which it has not been thought necessary to show in this drawing, as such are in common use. The lowermost of these rollers may be fluted or made rough on their surfaces, so as to cause friction on the under side of the plank. M. M′. are pulleys on the axles of these lower rollers which are embraced by bands N. N′., which also pass around a pulley, O., on a shaft which crosses the frame A. A., and has a pulley T., on it, which is embraced

Amended specification.

by the belt P., on a pulley, Q., on the shaft of the main drum, I.; these bands and pulleys serve to give motion to the feed rollers, as will be readily understood by inspecting the drawing. R. R. are guide strips used in place of the rollers used for the same purpose, and also for bearing or friction rollers when the machine is vertical, to direct one edge of the plank, and against its opposite edge; any pressure may be used equal to the weight of the board or plank, when worked in a vertical position. One of the cutter wheels should be made adjustable, to adapt it to stuff of different widths.

The planing cylinder, and likewise the cutter or tongueing and grooving wheels, may be constructed in the manner represented in Figures 2, 3, 4, 5 and 6, and hereinbefore fully described. One of the heads of the planing wheel may be made moveable to accommodate its width to the width of the boards or plank to be planed.

The respective parts of this machine may be varied in size, as may also the velocity of the motion of the planing cylinders and cutter wheels; but the following has been found to answer well in practice. The planing cylinder, having four knives or cutters, may be twelve inches in diameter, and may make two thousand and upwards revolutions in a minute. In a machine like that shown in Fig. 7, the main drum, I., may be two feet in diameter, and may be driven with the speed of five hundred and upwards revolutions in a minute. The pulleys on the planing cylinder, and on the cutter wheels, may be six inches in diameter. The plank should be moved forward at the rate of about one foot for every hundred revolutions of the cutter wheel; and, of course, the diameter of the feed rollers and of the pulleys by which they are turned, must be so graduated as to produce this result. The size and speed of the above parts of this machine, may be in some degree varied; but the above have been found to work well.

Having thus fully described the parts and combination of parts, and operation of the machine for planing, tongueing, and grooving boards or plank, and shown various modes in which the same may be constructed and made to operate without changing the principle or mode of operation of the machine, what is claimed therein as the invention of William Woodworth, deceased, is the employment of rotating planes, substantially such as herein described, in combination with rollers, or any analogous device, to prevent the boards from being drawn up by the planes when cutting upwards, or from the reduced or planed, to the unplaned surface, as described.

And also the combination of the rotating planes with the cutter wheels for tongueing and grooving, for the purpose of planing, tongueing, and grooving boards, &c., at one operation, as described. And also the combination of the tongueing and grooving cutter wheels for tongueing and grooving boards, and at one operation, as described.

And, finally, the combination of either the tongueing or the grooving, cutter wheel for tongueing or grooving boards, &c., with the pressure rollers, as described, the effect of the pressure rollers in these operations, being such as to keep the boards, &c., steady, and prevent the cutters

from drawing the boards towards the centre of the cutter wheels, whilst it is moved through by machinery. In the planing operation, the tendency of the plane is to lift the boards directly up against the rollers; but in the tongueing and grooving, the tendency is to overcome the friction occasioned by the pressure of the rollers.

WILLIAM W. WOODWORTH,
Administrator of William Woodworth, deceased.

Witnesses—
JAMES MILHOLLAND,
CHS. M. KELLER.

Whereas, upon the petition of William W. Woodworth, administrator of the estate of William Woodworth, deceased, for an extension of the within patent, granted to William Woodworth, deceased, on the 27th day of December, 1828. The Board of Commissioners, under the 18th section of the act of Congress, approved the 4th day of July, 1836, entitled an act to promote the progress of useful arts, to repeal all acts and parts of acts heretofore made for that purpose, did, on the 16th day of November, 1842, certify that the said patent ought to be extended.

Now, therefore, I, Henry L. Ellsworth, Commissioner of Patents, by virtue of the power vested in me by said 18th section, do renew and extend said patent, and certify that the same is hereby extended, for the term of seven years, from and after the expiration of the first term, viz, the 27th day of December, 1842, which certificate of said Board of Commissioners, together with this certificate of the Commissioner of Patents, having been duly entered of record in the Patent Office, the said patent now has the same effect in law as though the term had been originally granted for the term of 21 years.

[Seal of the Patent Office.] In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed, this 16th day of November, 1842.

HENRY L. ELLSWORTH,
Commissioner of Patents.

United States Patent Office.

To all persons to whom these presents shall come, greeting:

This is to certify, that the annexed is a true copy of the originals on file in this office.

[Seal of the Patent Office.] In testimony whereof, I, Henry L. Ellsworth, Commissioner of Patents, have caused the seal of the Patent Office to be hereunto affixed, this seventh day of March, in the year of our Lord one thousand eight hundred and forty-three, and of the independence of the United States the sixty-seventh.

H. L. ELLSWORTH.

Patent Office, March 3, 1845.

Whereas the Congress of the United States have passed an act, of which the following is a true copy, viz:

An act to extend a patent heretofore granted to William Woodworth.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the patents granted to William Woodworth, on the twenty-seventh day of December, in the year one thousand eight hundred and twenty-eight, for his improvement in the method of planing, tongueing, grooving and cutting into mouldings, or either, plank, boards, or any other material, and for reducing the same to an equal width and thickness; and also for facing and dressing brick, and cutting mouldings on, and facing, several other substances; a description of which is given in a schedule annexed to the letters patent, granted as aforesaid, be, and the same is hereby, extended for the term of seven years, from and after the twenty-seventh day of December, in the year one thousand eight hundred and forty-nine; and the Commissioner of Patents is hereby directed to make a certificate of such extension in the name of the administrator of the said William Woodworth, and to append an authenticated copy thereof to the original letters patent, whenever the same shall be requested by the said administrator or his assigns.

Approved Feb. 26, 1845.

A true copy from the roll in this office.

R. K. CRALLE, *Chief Clerk.*

Department of State, March 3, 1845.

Commissioner's certificate of extension.

Whereupon, in conformity with the requisition in said act of Congress set forth, the Commissioner of Patents, on the 3d day of March, A. D. 1845, affixed to said letters patent his certificate, in the words following, to wit:

In conformity, therefore, with the directions in the said act contained, I, Henry L. Ellsworth, Commissioner of Patents, do hereby certify, that the patent therein described is by the said act extended to William W. Woodworth, administrator of said William Woodworth, for the term of seven years from and after the twenty-seventh day of December, in the year one thousand eight hundred and forty-nine; and this certificate of such extension is made on the original letters patent, on the application of William W. Woodworth, the administrator of the said William Woodworth.

In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed this 3d day of March, 1845.

[L. S.] HENRY L. ELLSWORTH,
Commissioner of Patents.

Filed, 28th November, 1845.